



1995 Annual Report

October 1, 1995



Northwest
Power Planning
Council



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**15TH ANNUAL REPORT
of the
Pacific Northwest Electric Power
and
Conservation Planning Council**

Submitted to the

*Committee on Energy and Natural Resources
United States Senate*

*Committee on Commerce
United States House of Representatives*

and

*Committee on Resources
United States House of Representatives*

October 1, 1994, through September 30, 1995

**Northwest Power Planning Council
851 S.W. Sixth Avenue
Suite 1100
Portland, Oregon 97204
1-503-222-5161
Toll Free: 1-800-222-3355**

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Contents

Overview	3
Major Fish and Wildlife Activities	5
Major Power Planning Activities	19
Fiscal Years 1995, 1996 and 1997 Budget Summaries	30
Council Meetings, Working Sessions and Rulemakings	31
Council Offices	33
Comment on the Draft Annual Report.....	34

The Northwest Power Planning Council was established by the Congress of the United States, and the Legislatures and Governors of Idaho, Montana, Oregon and Washington. These bodies charged the Council with convening a public forum through which the electricity needed by the Northwest could be secured economically, and the Columbia River Basin's fish and wildlife could be protected.

Specifically, Congress, in the Northwest Power Act of 1980 (Public Law 96-501), called on the Council to:

- Develop a 20-year electrical power plan to guarantee adequate and reliable energy at the lowest cost to the Pacific Northwest.*
- Produce a program to protect and rebuild fish and wildlife populations in the Columbia River Basin that have been affected by hydroelectric development.*
- Conduct an extensive program to involve the public in deliberations over power planning and fish and wildlife protection.*

This annual report has been developed pursuant to Section 4(h)(12)(A) of the Northwest Power Act.

Overview of 1995 Actions

Columbia River Basin Fish and Wildlife Program

On December 14, 1994, the Northwest Power Planning Council adopted its 1994 Columbia River Basin Fish and Wildlife Program, incorporating major changes in actions to protect salmon and steelhead in the Columbia and Snake river basins. The new program addresses salmon survival at every stage of their life cycle. It includes improvements in spawning habitat, better coordination of hatchery operations, increases in flows and river velocities to speed young salmon past the dams, corrections in the dams to help divert salmon from turbines, refinements in the use of barges to transport salmon around dams, controls on predators that feed on young salmon and tighter restrictions on salmon harvests. Progress in each of these areas is described in this report.

Because of the expense and uncertainty regarding some of the above actions, the Council decided to review the scientific assumptions that served as their basis. A prominent group of scientists, known as the Independent Scientific Group, will conduct the review, with results expected later this year.

Immediately after adopting the new salmon measures in the fish and wildlife program, the Council turned to actions to protect and enhance populations of wildlife and resident (non-seagoing) fish that also were affected by hydropower dams. Amendment recommendations for these sections of the program were submitted under an extended deadline -- moved from November 17, 1994, to January 27, 1995. Public comment on the draft amendments was taken through June 15, 1995. On September 13, 1995, the Council voted to amend the program, incorporating new measures for resident fish and for wildlife. The amendments integrate measures to protect non-seagoing fish and wildlife with those aimed at protecting salmon. More detail on the new measures is contained in the Major Fish and Wildlife Activities section of this report.

Throughout 1995, the Council will be monitoring and evaluating implementation of the fish and wildlife program. Implementation of some actions has been slowed due to the need to coordinate activity on the Council's Columbia River basinwide program with that called for in the National Marine Fisheries Service's biological opinion on hydropower operations and its Draft Recovery Plan for endangered Snake River salmon. In addition, implementation will be affected by Congressional action regarding Bonneville Power Administration funding for fish and wildlife recovery actions. The detailed implementation report that follows highlights these conditions.

Northwest Conservation and Electric Power Plan

As required by the Northwest Power Act, the Council will produce a draft of its 1996 Northwest Power Plan for release early in Fiscal Year 1996. The new plan likely will be adopted in April 1996. This new plan challenges the Council as no other power plan has. The plan is being developed in the midst of the most significant reorganization of the electric power industry in U.S. history. Changes in technologies, regulations and fuel prices have made access to the utility world more open and more competitive than ever before. The Bonneville Power Administration, which is carrying the debt from the Washington Public Power Supply System's nuclear program and funding the bulk of implementation of the Columbia River Basin Fish and Wildlife Program, is finding it difficult to compete with independent power producers that can offer lower rates for electricity from new gas-fired power plants and brokers dealing in surplus generation at variable costs.

The new power plan must address these circumstances, as they affect both Bonneville and the region as a whole. The Council intends to explore possible new utility industry structures that could evolve and then analyze the consequences of each new structure for the industry. From the Council's point of view, the key will be finding ways to fulfill the mandates of the Northwest Power Act given these entirely new conditions. Providing reliable electricity service at the lowest possible cost to the environment and the economy remains a laudable and achievable goal, which a prudent power plan can help secure.

In the meantime, implementation of the 1991 Power Plan continues. In 1994, the region's utilities saved 130 megawatts of electricity through conservation programs. The regional total to date is 930 megawatts. This is almost half the annual firm energy output of Grand Coulee Dam (1,916 megawatts). In addition, 1,620 megawatts of new generating resources have been completed since the 1991 plan. Of this total, approximately 66 percent are natural gas-fired.

The region is also moving ahead on renewable resources. These include more than 490 megawatts of new hydropower and hydropower efficiency improvements, and more than 220 megawatts of biomass projects that are either completed or under construction. In addition, Bonneville and regional utilities are developing three geothermal and three wind pilot projects of the type called for in the 1991 Power Plan. Bonneville's financial difficulties, coupled with customers' removing load from the agency, have, however, caused the agency to reassess its participation in the projects in which it has a part. Not only is the future of these projects unclear, but less expensive wholesale power is making it more difficult for renewables, in general, to compete. An issue to be addressed in the next power plan is the level of renewable resource production the region should seek and, in view of Bonneville's financial difficulties, how to support this level of production.

To gauge regional interest in and encourage support for renewable resources, the Council sponsored a well-received conference in February. Proceedings from the one-day event were compiled and distributed by the Council.

Council Membership

Membership on the Council changed significantly this year. In November 1994, new governors were elected in Idaho and Oregon. Idaho's Governor Phil Batt appointed Mike Field and Todd Maddock to represent him on the Northwest Power Planning Council. They replaced Robert Saxvik and Andy Brunelle. Brunelle had been appointed by former Governor Cecil Andrus to replace Jay Webb, who resigned from the Council in November 1994. Webb had been chair of the Council until his resignation. Oregon's Governor John Kitzhaber retained former Governor Barbara Roberts' appointment of Joyce Cohen and appointed John Brogoitti, of eastern Oregon, to replace Angus Duncan when Duncan left the Council in September 1995. Oregon member Ted Hallock retired in December. In Washington, R. Ted Bottiger also retired in December, and Governor Mike Lowry appointed Mike Kreidler to replace him. John Etchart, of Montana, served as vice chair during Angus Duncan's chairmanship and replaced Duncan as chair, until the Council elects new officers early next year.

Major Fish and Wildlife Activities of 1995

Columbia River Basin Fish and Wildlife Program

On September 9, 1994, the U.S. Court of Appeals for the 9th Circuit ruled on a challenge to the Northwest Power Planning Council's 1992 Strategy for Salmon. The Strategy for Salmon was a section of the Columbia River Basin Fish and Wildlife Program, adopted separately in response to the urgent condition of Columbia River Basin salmon populations. The legal challenge was filed by the Northwest Resource Information Center, Inc., the Yakama Indian Nation and several salmon advocacy groups. Utility groups, aluminum companies and others filed as intervenors. The court held that the Strategy for Salmon should be reconsidered to ensure that it gives adequate weight to recommendations of the region's fish and wildlife agencies and Indian tribes. In addition, the Court questioned whether "biological objectives" were spelled out in the Strategy for Salmon.

The Council had already begun procedures to amend the Strategy for Salmon portions of the fish and wildlife program when the Court's decision was rendered. In response to the Court decision, the Council met with representatives of the agencies and tribes to ensure their full participation in the amendment process. The Council also conducted an intensive public involvement and review process on the amendments, which included public hearings in each of the four Northwest states and consultations with interested and affected parties.

On December 14, 1994, on a vote of 6 to 2, the Council adopted its 1994 Columbia River Basin Fish and Wildlife Program, incorporating the recommendations of many fishery agencies and Indian tribes. Those changes and their implementation progress are described below. In February 1995, the Idaho Power Company challenged the amendments in a petition to the Court of Appeals. However, in April, the Company asked the Court to dismiss the challenge. No other challenges were filed.

In the meantime, the process for appellate review of the original ruling, Northwest Resource Information Center v. Northwest Power Planning Council, is still under way. A request by utilities and direct service industries for the Court of Appeals to reconsider its opinion was denied in January 1995. In April 1995, the Pacific Northwest Generating Cooperative asked the U.S. Supreme Court to review the opinion. The Council filed a response informing the Court that the action at issue in this proceeding had been supplanted by adoption of the December 1994 amendments, and that the matter is now moot. The Court has yet to rule on the request for review.

On September 13, 1995, the Council adopted amendments to the Columbia River Basin Fish and Wildlife Program that relate to resident fish and wildlife. The new measures establish minimum funding levels for resident fish and wildlife, each obtaining 15 percent of all program expenditures. They also include detailed biological objectives and strategies for watersheds above Chief Joseph and Grand Coulee dams, which can be used as models for other watersheds. For wildlife, the amendments call on Bonneville to work with the U.S. Army Corps of Engineers, the Bureau of Reclamation and other federal land and water agencies to finalize a wildlife mitigation plan by March 1, 1996 and submit it to the Council for approval.

Program Management, Organization and Monitoring

In Fiscal Year 1995, the Northwest continued to face the challenges posed by the listing of several fish species as threatened or endangered. The listing of Snake River salmon for protection

under the federal Endangered Species Act focused attention on the National Marine Fisheries Service's directions for operating federal dams on the Columbia and Snake rivers. Kootenai River sturgeon have also been listed, and the U.S. Fish and Wildlife Service is developing a recovery plan for that species.

Bull trout in Montana have been listed as "warranted but precluded," under which the status of the fish will be reviewed annually. Montana is leading its own recovery effort.

At the same time, the Council's mandate is to protect, mitigate and enhance *all* fish and wildlife species affected by the development of hydroelectricity in the region. The Council's program must complement the goals of the region's Indian tribes and state fish and wildlife agencies for restoring healthy populations that can once again meet the tribes' religious and economic needs, and support fishing and hunting.

The Council's plan seeks to keep action progressing on both of these fronts; the emergency response to weak Snake River salmon and the long-term rebuilding program for all fish and wildlife populations affected by hydroelectric development. To fit these twin purposes together, the Council and its staff work with the National Marine Fisheries Service in several ways. Staff from the Council and the Fisheries Service have cooperated in trying to determine conflicts between recovery measures for Snake River salmon and survival of other fish and wildlife populations, such as the fish in storage reservoirs that can be harmed when reservoir releases are increased to speed salmon migrations. The Council and the Fisheries Service continue to examine measures common to both plans and endeavor to coordinate schedules and funding. However, the Service's current biological opinion requires more water and costs more than does the Council's program, which is of great concern to the Council. These greater expenditures and increased water use aggravate Bonneville's financial condition, as discussed earlier. The Fisheries Service's release of its draft Recovery Plan for Snake River salmon provided additional detail on needed work and schedules, which should allow a higher degree of coordination between the Council and the Service as they try to accomplish linked, but separate, purposes.

Implementation planning/budgeting/prioritization

The Council's fish and wildlife program relies on several funding sources and implementors, although the Bonneville Power Administration provides the majority of the funding. This amounted to \$83 million in 1995: about \$67 million for salmon and steelhead, \$6.5 million for resident fish and \$9 million for wildlife. Some funding also comes from Congress through the Mitchell Act and directed appropriations to other federal agencies. In addition, funding comes from the states, tribes and regional utilities and from individual fishers, landowners and others who use the rivers.

Implementation is largely conducted through the management actions of tribal, state and federal natural resource agencies. Bringing these agencies together with the funding sources to implement actions in an orderly and efficient manner has been difficult over the life of the program. The Council seeks a process that includes the broad range of implementors and funding sources to ensure the most effective use of available dollars for implementation.

Little progress was made in 1995 in improving the coordination of implementation. Bonneville suspended monthly meetings with implementors and other involved parties to review and coordinate implementation because participation by fishery managers and others had dwindled. Some managers questioned whether the Bonneville meetings were the most effective opportunity to influence implementation. While extensive discussions focused on making a transition to a new process, no new planning and coordination structure was initiated.

On a more positive note, however, Bonneville, the Columbia Basin Fish and Wildlife Authority and the Council worked together in an interim effort to establish priorities for 1996. The fish managers reviewed and ranked ongoing and proposed projects to implement the program. The Council reviewed these priorities for consistency with the program and has assessed the impacts of Bonneville's proposed budget allocation on their implementation. This process was concluded in September. It will give implementors a predictable budget and schedule for the coming year's work.

Coordinated Information System

In its 1987 Fish and Wildlife Program, the Council called for creation of a Coordinated Information System to provide electronic access for researchers and managers to fish and wildlife data stored throughout the basin. The Coordinated System is also the vehicle for gathering fish and wildlife project data and compiling it into a central, uniform, electronic library for use by scientists and others wishing to review the program. The system, which is operated and maintained by the Pacific States Marine Fisheries Commission, is the key resource for monitoring and evaluating the results of the program. Though the full data collection effort is not complete, the first annual compilation of program data should be available this year.

Independent Scientific Group/program monitoring

To provide an independent scientific evaluation of the program and its results, the Council called for the creation of the Independent Scientific Group. The group is composed of outside experts who serve on a part-time basis. They are to produce a report on the program every two years and address specific questions related to project implementation. Previously, Bonneville and the Authority convened a group of experts to address implementation issues. The Council agreed with Bonneville and the Authority to utilize this existing panel to form the Independent Scientific Group. That transition was completed earlier this year.

In February, the group agreed to an additional request from the Council. In response to questions about some recovery measures, especially those regarding salmon survival in the mainstream of the Columbia, the group will conduct a review of the science underlying the Council's fish and wildlife program. This review is expected to be compatible with the Group's program evaluation responsibilities, but is a separate and additional project.

The National Marine Fisheries Service also identified the need for independent scientific review of its Snake River Salmon Recovery Plan. The Service is discussing the formation of a scientific advisory board. The Council and the Fisheries Service are determining how much of their respective needs can be addressed by the Independent Scientific Group and the separate role of the Service's advisory board.

Juvenile Salmon Migration

The section of the program with the greatest regional economic impact is the set of measures designed to increase survival of juvenile salmon by speeding their migration downstream past the Snake and Columbia river dams. The Council first adopted a "water budget" in 1982 to reserve 3.45 million acre-feet of upper Columbia water and 1.19 million acre-feet from the Snake River Basin during the winter, to be released in the spring when juvenile salmon are migrating. Since 1982, these amounts of water to be held in storage have been increased to move the young salmon more quickly past the dams.

With the 1994 amendments, water storage to increase flows for spring and summer migrating salmon amounts to 11.87 million acre-feet (8.25 million acre-feet on the Columbia and 3.62 million

acre-feet on the Snake). These water reserves result in constraints on the amount of power that can be generated at the dams during the winter. In some cases, the Northwest may need to purchase power from outside the region to meet winter energy demands.

This year, dam operators are following the mandates of the National Marine Fisheries Service's biological opinion in their operation of the federal power system. The biological opinion differs from the Council's program in several important respects. First, it conflicts with protections in the Council's program for resident fish in headwater storage reservoirs. The Council adopted specific "integrated rule curves" to regulate reservoir drawdowns and protect resident fish and wildlife at Hungry Horse and Libby dams in Montana. These rule curves were violated this year by the biological opinion's operations. The biological opinion, in general, devotes more water from the upper Columbia to salmon flows and less from the Snake River, as well as more water overall than the Council's program. In August, the Fisheries Service modified its position for one year, in response to these concerns.

In addition to revised power system operations, the program also calls for modifying the dams to improve salmon passage. These measures include continuing to install screens in front of the turbine intakes at each dam and testing new surface bypass facilities to guide salmon safely around the dams. The measures also call for operating the John Day Dam on the Columbia and two of the Snake River dams at lower levels beginning in 1996. These operations will require costly modifications to the dams and mitigation of impacts to other river users. Funds have been appropriated to initiate preliminary engineering designs for the drawdown operations at John Day Dam.

Status of the experimental approach: survival and transportation evaluations

When it adopted new river operation measures, the Council acknowledged that available science does not offer certainty that a given strategy will produce the desired improvements in salmon survival. Because, as in many areas of environmental policy, scientific certainty in the near term is elusive, the Council structured its mainstem measures as an adaptive management experiment. It adopted a hypothesis (see Section 5.0 of the program) to frame the program's expectation that increased velocity in the river will result in increased salmon survival. The program calls for testing this hypothesis through specific evaluations of salmon survival.

The two primary evaluations address the relationship of river flows to salmon survival and the effectiveness of transporting juvenile fish in barges and trucks compared to migration in the river. The inriver survival study is in its third season of refining the study method and gathering preliminary data. The study, which is limited to the Snake River, is being conducted by a team from the National Marine Fisheries Service and the University of Washington. The team reported that it is successfully able to collect fish, tag them and then detect the fish as they pass between Lower Granite and McNary dams. To expand this research, more detectors need to be installed at the dams on the mainstem of the Columbia. Bonneville and the Corps are in the process of adding detectors at Bonneville and John Day dams, with completion scheduled for 1997 or 1998.

The National Marine Fisheries Service began an evaluation of transportation effectiveness this spring. Both studies are consistent with the research requirements set by the Service in its guidelines for river operations under the Endangered Species Act. The Council has asked the Independent Scientific Group to monitor the design and progress of the research and regularly report its findings to the Council.

Summary of mainstem structural modifications

The program calls for a series of structural measures at the mainstem dams to improve juvenile and adult salmon passage. In addition to design and evaluation of drawdown operations, the measures included testing surface collectors, spill efficiency and gas abatement facilities, and other projects at the dams. In general, these measures are implemented by the U.S. Army Corps of Engineers with funds appropriated by the Congress and repaid by Bonneville.

The Corps is tying its schedule for the design, evaluation and installation of these modifications to the provisions of the National Marine Fisheries Service's 1995 biological opinion for mainstem operations. Where the measures of the program and the biological opinion conflict or differ, the Corps is following the terms of the biological opinion.

- **Lower Snake drawdown and surface bypass evaluations:** The Corps is continuing to evaluate the design and feasibility of operating the four lower Snake reservoirs at lowered levels. Responding to the biological opinion, the Corps is on schedule to provide an interim evaluation report on natural river drawdown, spillway crest drawdown and surface collectors in August of 1996. This will provide information that is essential to decisions on whether and how to proceed with drawdown work. The Corps expects to have preliminary information about surface bypass alternatives and additional flow survival study results to contribute to the decision at that time. However, the degree to which anyone can predict and subsequently test the biological efficacy of any of these measures is currently limited. Under the terms of the biological opinion, a final decision on the best passage alternative is due in 1999.
- **John Day drawdown:** The biological opinion and the program both call for operating the John Day reservoir at its minimum operating pool by 1996 if the necessary mitigation for reservoir users is in place. The Corps has informed the National Marine Fisheries Service that it does not believe it can put in place mitigation in time for 1996 operations. Corps staff say that the Corps lacks legislative authority to mitigate for potential impacts to private facilities and that specific Congressional approval is necessary. The Corps also expects to be unable to fully mitigate wildlife and hatchery impacts by 1996. Interim measures may be possible. The Corps' Portland District staff is also developing a schedule for evaluating drawing down the John Day pool to spillway crest.
- **Surface collectors:** Testing new designs for bypass facilities that collect juvenile fish near the surface of the reservoirs is under way. The Corps began tests of spillway and powerhouse vertical slot surface bypass prototypes at The Dalles Dam and spillway baffles at Ice Harbor Dam this year. A floating surface collector prototype is being designed for testing at the Lower Granite Dam powerhouse in 1996. Further work is scheduled at Bonneville and John Day dams. The Corps reports that it will be testing designs at various dams between now and 1998.
- **Gas abatement facilities:** Both the Council and the National Marine Fisheries Service called for design, testing and installing possible spillway or stilling basin modifications to lower the amount of dissolved gas created in the river when water is spilled to improve juvenile fish passage. High levels of dissolved gas can be lethal for migrating salmon and steelhead. However, it is not clear what level of dissolved gas is acceptable. The Corps has initiated a

gas abatement study to develop designs for modifications to the eight mainstem dams it manages. In 1995, the Corps conducted the preliminary stages of the study by collecting data on spill and total dissolved gases at the projects and developing alternative modification designs, as well as testing a vertical slot design for the spillway gates at The Dalles and Ice Harbor dams.

- **Transportation facilities:** The Corps is attempting to comply with the standards of the biological opinion for direct loading of juvenile fish and minimum holding times. These standards are consistent with the program. The Corps is preparing cost estimates for a budget decision on purchasing additional barges, which will improve its ability to comply with the holding and direct loading standards.
- **Other measures:** An evaluation of the new juvenile bypass facility at McNary Dam has been completed, and the Corps is waiting for a final report from the National Marine Fisheries Service research team. The Corps is also continuing to evaluate alternative turbine designs to improve fish survival when turbine passage occurs. The program also called for a feasibility study for a bypass research facility located in the region. Corps staff have prepared a preliminary action plan for completing a feasibility report in January 1996. Additional funding to move forward on such a facility would be required.

Predation measures

Bonneville continues to fund a major program to reduce populations of bigmouth minnows (squawfish) in the Columbia and Snake reservoirs. This program functions through paying bounties to sport fishers who catch and turn in bigmouth minnows. Efforts to develop commercial opportunities from the harvest were unsuccessful.

The bounty program caught 160,000 fish in 1994. Researchers believe this number was about 11 percent of the population in the river. Bonneville has not reported to the Council conclusions about the effectiveness of the program in improving salmon survival, although there are some concerns about a potential increase in predation if the program is discontinued. Both the Council's program and the draft recovery plan for Snake River salmon call for an expansion of the effort, as well as additional focus on other sources of predation. The bounty program costs more than \$5 million a year to implement.

Adult Salmon Migration

Structural modifications and improvements

The U.S. Army Corps of Engineers reports that it is continuing structural analyses of adult passage facilities for needed improvements or repairs. A study of the upstream migration of adult spring and summer chinook salmon and steelhead past the four lower Snake River dams, through the reservoirs and into the tributaries of the Snake River Basin was funded by the Corps and conducted from 1991 through 1993. This research evaluated the effect of spill, powerhouse operation and flows on the passage rates of adult fish at the dams, migration rates through the reservoirs, the fishway entrances used, fallback at the dams and movements into tributaries upstream from the reservoirs. A similar adult salmon passage study was conducted by the mid-Columbia public utilities at their five mainstem dams and reservoirs in 1993, and another study is planned to be initiated by the Corps at the four lower Columbia River dams beginning in spring 1996.

Temperature improvements

To reduce high water temperatures that often occur in the lower Snake River in the late summer months, the Council's 1994 Fish and Wildlife Program includes measures to use cold water releases in August and September, if available, from the Corps' Dworshak Dam on the North Fork of the Clearwater River. Additional volumes from the upper Snake Basin and Idaho Power Company's Brownlee Dam are called for to assist in moving this cold water from Dworshak Dam through the four lower Snake River reservoirs. The program also calls for an evaluation of the effectiveness of this Snake River temperature control operation.

The water management plan outlined in the National Marine Fisheries Service biological opinion, while not specifically calling for late-summer temperature control releases, attempts to conserve water in Dworshak and Brownlee reservoirs in the summer for flow augmentation in the Snake River during July and August to achieve specific summer flow targets. To conserve adequate water supplies for summer flow augmentation, the Service's biological opinion calls for operation of all federal Columbia Basin storage reservoirs, including Dworshak, to attempt to refill by June 30 of each year, with gradual releases to specified project draft limits through August. Such outflows from Dworshak reservoir could include cold water releases. The federal agencies' in-season Technical Management Team makes operational recommendations during the spring and summer fish passage periods to meet the Fisheries Service flow objectives, depending on timing of the runoff and the salmon migration. In-season management decisions on use of stored water for temperature control are made after consideration of concerns raised by state fishery agencies, tribes, Idaho Power Company, other parties and the Council's Fish Operations Executive Committee.

Coordinated Salmon Production and Habitat

Status of updated subbasin plans

Production and habitat plans for the 31 subbasins where salmon and steelhead are produced in the Columbia River Basin were completed in 1990. These plans were developed by the fish agencies and tribes, in coordination with other interested parties, under contract with the Council. While the background in the plans remains essentially valid, the recommendations need updating in light of the declines in many fish populations that have occurred over the last several years. The program calls on the managers to complete this updating by the end of 1996 so additional habitat and production actions can be put in place. In partial response, the Council recently received a draft comprehensive tribal restoration plan that proposes numerous habitat and production actions.

Lack of action on natural production measures

The region has yet to make progress on the natural production measures in the program. The Council called for an inventory of the status and trends of wild and naturally spawning populations beginning in 1992. These inventories were to lead to adoption of specific management policies to protect and enhance these stocks. The Council called on Bonneville to fund the necessary research to develop these policies. However, the fishery managers have not placed a priority on developing a regional natural production program.

Initiation of carrying capacity research

A significant scientific question identified by the program and echoed by the National Marine Fisheries Service's draft recovery plan, is the ability of the river, estuary and ocean ecosystems to feed all of the salmon produced in the basin. Little information exists to guide hatchery management and protect naturally spawning populations. The program asks Bonneville to fund an initial survey of

available information and develop proposed “carrying capacity” research plans. Because such research could be expensive, the program asks Bonneville to review the scope of the proposed research effort with the Council before initiating studies.

Bonneville staff initiated the first phase of this work this year by contracting with Battelle Pacific Northwest Laboratory to conduct a workshop on carrying capacity information needs and to develop research options. The initial workshop was held the first week in September 1995. Because this research is a priority in the draft recovery plan, the Council and Bonneville staff are working to coordinate these actions with the National Marine Fisheries Service.

Completion of hatchery guidelines/need to start independent hatchery audits

Regional hatchery managers completed work on standards and guidelines for hatchery operations in the Columbia River Basin. The Council called for the development of these policies to improve fish health and survival and reduce impacts of hatcheries on naturally spawning populations. Working through the Integrated Hatchery Operations Team, the managers are implementing these policies at their facilities throughout the basin. The Council approved the policies early in 1995.

The next step under the program is to monitor the implementation of these policies through regular audits conducted by independent experts. Funded by Bonneville, these independent auditors are to visit each hatchery every three years and inspect the performance and management of the facilities against the policies developed by the Integrated Hatchery Operations Team. These audits are expected to begin this year.

The agencies are also conducting a comprehensive environmental impact statement on hatchery operations, reporting their progress regularly to the Council.

Update on new production measures (captive broodstocks/supplementation policies)

In response to extremely low returns of Snake River chinook in 1994 and predicted for 1995, the Council adopted measures calling for emergency production facilities. One approach includes temporarily using hatcheries to boost populations that are intended to spawn naturally over the long term (a practice called supplementation by fisheries managers). Another emergency measure is captive breeding, where fish are raised and spawned in captivity in hopes of increasing the size of the next generation’s juvenile population.

There are still uncertainties regarding the long-term use of supplementation or captive broodstock programs for rebuilding naturally spawning populations. To address these uncertainties and meet tribal and state production goals, the Council asked the fishery managers to propose a set of supplementation experiments that could be initiated using guidelines developed by a Council scientific team in 1991. The fishery managers have proposed the projects, but they have been stalled by the need for approval by the National Marine Fisheries Service. The Fisheries Service has indicated that supplementation will be used in salmon recovery, but it has not yet decided on these specific proposals.

Because the captive breeding program for Snake River sockeye was an emergency action, the Council called for a survey of available information on captive broodstock practices to determine the need for new research and demonstration projects. Bonneville funded the National Marine Fisheries Service to conduct the information review and went on to fund an initial demonstration project. The Fisheries Service has not yet reported on the results of the information review so the Council has not evaluated the need for investing in additional projects. Because of the substantial cost of the projects, the Council urged the National Marine Fisheries Service to review the results of the information survey with the region before launching additional projects.

Status of Stanley Basin sockeye program

Since 1991, Bonneville has funded the emergency captive breeding program for Snake River sockeye. Each year the few adult sockeye returning to Redfish Lake in Idaho have had their eggs and sperm taken to breed new generations in captivity. Those juveniles have been raised to maturity in hatcheries in Idaho and Washington. The program is designed to breed enough juveniles in the succeeding generations to recover the species. Last year 14,000 juveniles from the program were released into Redfish Lake and are migrating to the ocean this year. To improve the survival of juveniles this year, the Idaho Department of Fish and Game is fertilizing the lake. Given that it is building from such small numbers of fish, the program remains highly experimental and will require many more years to determine its success.

Status of tribal production facilities

Master plans for the Grande Ronde, Imnaha, Walla Walla and the last supplement to the Umatilla components of the Northeast Oregon Production Facilities Program are in semifinal form and await the results of the comprehensive environmental analysis and the National Marine Fisheries Service's recovery plan decisions on the role of production facilities.

The Yakama Fisheries Project includes plans to construct, operate and maintain anadromous fish production facilities. The design and management of this hatchery should enable the Yakama Indian Nation and the Washington Department of Fish and Wildlife to study and demonstrate supplementation techniques that could be used to rebuild naturally spawning salmon populations historically present in the Yakima River Basin. To date, the Bonneville Power Administration, the Washington Department of Fish and Wildlife and the Yakama Nation have looked at a wide range of approaches. These have been explored in an environmental assessment, a draft environmental impact statement and now a revised draft environmental impact statement.

Bonneville proposes to fund a supplementation project to increase both the total numbers of fish in the system and the numbers of naturally spawning fish in the Yakima Basin. The two alternatives proposed in the revised draft environmental impact statement currently out for public review are:

- Alternative 1: Supplements depressed naturally spawning populations of upper Yakima spring chinook.
- Alternative 2: Includes all actions under Alternative 1, as well as adding a study to determine the feasibility of re-establishing a naturally spawning population and a significant fall fishery for coho in the Yakima Basin.

The Hood River Project is proceeding to collect information to do a genetic risk statement and to identify a monitoring and evaluation program. This is a five-year project now in its third year.

The Nez Perce Project draft environmental impact statement has been issued.

The Pelton Ladder Project is investigating doubling production at the ladder. Alterations at the ladder are being completed now to allow the test. The test is expected to begin with the 1995 brood year.

Actions for Snake River fall chinook and spring/summer chinook

Actions that address Snake River fall chinook have centered on decreasing harvest and improving passage and spawning conditions. Harvest in the ocean and river has been reduced to levels

below those specified in the program. Efforts are proceeding to provide cooler water in the late summer and fall for returning adult fall chinook. These efforts are intended to not only prevent a thermal barrier to upstream migration, but also to increase survival and improve the condition of these fish to facilitate spawning. The program also calls for development of an emergency production effort for this stock. Progress has been slow on this measure because the National Marine Fisheries Service has voiced concerns that the effort could have unintended genetic consequences. Discussions are ongoing to determine whether collection of adults might occur this fall.

Actions to benefit Snake River spring/summer chinook have centered on improving mainstem passage. In addition, program measures addressing these stocks include diversion screening, tributary passage improvements, habitat improvement, harvest constraints and, potentially, emergency supplementation or captive broodstock development. The Council has received proposals for several projects from the fish managers under program provisions calling for identification of emergency actions to improve the survival of adults returning in 1995 and 1996 and their offspring. Funding for these projects from Fiscal Year 1995 and 1996 budgets is being explored.

Other weak stocks

Because the Council's program is intended to look beyond the listed stocks of salmon, the Council called for near-term reviews of several other potentially weak stocks. The program identified several lower Columbia anadromous fish populations for reviews of land management practices and populations status -- including coho and searun cutthroat trout. The states have not yet conducted these reviews.

The Council also called for a review of the status of Pacific lamprey, the eel-like fish native to the Columbia River and an important resource for basin Indian tribes. Bonneville funded an initial survey of available information to determine additional research needs or possible rebuilding actions. This initial work is the subject of a report that was submitted for Council review in September 1995.

Habitat work -- model watersheds

The Council's "model watershed" program was adopted in the 1992 Strategy for Salmon to test ways to involve landowners and local communities in improving land and water management for salmon productivity. Each state was asked to designate initial watersheds. Bonneville funded full-time coordinators to organize local involvement and planning of high priority projects. In Oregon, the Grande Ronde watershed was designated. Idaho chose the upper Salmon tributaries of the Lemhi, Pahsimeroi and south fork Salmon rivers. Washington began work in Asotin Creek and expanded its efforts to the Tucannon watershed.

These efforts have resulted in the implementation of a variety of actions. In the Grande Ronde, the model watershed committee expects to work on more than 50 habitat, water conservation and water quality improvement projects in 1995. Irrigators in the Lemhi watershed coordinated a spring "salmon flush" in 1994 and 1995, where irrigation diversions were simultaneously suspended so an increased flow of water could help push juvenile salmon down the tributary. The Asotin Creek watershed group continues to implement its plan with projects such as installing offstream watering tanks for livestock and creating settling basins to reduce siltation.

These projects have drawn from a wide variety of funding sources. The program envisions initial Bonneville support to assist the local community in developing long-term funding and operations. Expanding the watershed program to other tributaries is the next phase of program implementation.

Habitat work and federal land management actions

The Forest Service and the Bureau of Land Management manage more than 50 percent of the remaining salmon spawning habitat in the Columbia River Basin. The Council's program called on these agencies to revise their management plans to provide more protection for salmon habitat and passage. The agencies have developed management guidelines based on other regional forest and salmon recovery policies. In addition, the agencies are conducting ecosystem environmental impact statements for federal lands in the Columbia Basin.

With the listing of Snake River chinook as endangered, the Endangered Species Act consultation process for federal agencies is guiding the agencies' management actions. The agencies have worked with the Fisheries Service in the review of logging, grazing, mining and recreation activities that may affect Snake River salmon.

Although Congress has appropriated funds to the Forest Service for salmon habitat improvements, most of the restoration funds have been focused west of the Cascades. The Council has expressed concern that additional federal resources should assist salmon habitat and other restoration efforts east of the Cascades.

Tributary diversion screening program

Among the priority actions in the Strategy for Salmon was a regional focus on repairing and installing screens at irrigation and other water diversions in the Columbia Basin. Under the program, fishery managers formed a Fish Screening Oversight Committee with coordination from the Columbia Basin Fish and Wildlife Authority to inventory sites needing screening installation or repairs and other passage improvements. The managers developed a priority list in 1992 and have continued to work through the list.

Work is complete in Washington's tributaries that have threatened and endangered populations. Efforts in Washington now will shift to the Yakima Basin and the upper Columbia tributaries. In Oregon, the screening team expects work to be completed in the Imnaha and Grande Ronde watersheds by next year. They expect to focus on the John Day watershed next. Idaho has completed approximately 90 percent of its screens in the Salmon River Basin and is inventorying sites in the Clearwater Basin.

Funding for this program has come from two sources. Bonneville funds the screening coordination and development of screen fabrication shops to expand screen manufacturing capacity. Bonneville has also been the major source of funding for screening diversions in the Yakima Basin under the Council's earlier programs.

The bulk of funding for screen construction and installation comes from the federal government under the Mitchell Act. The Mitchell Act gives the National Marine Fisheries Service authority to improve tributary passage and habitat in the Columbia Basin. A major concern for the Council has been the continuation of these funds. In each year since initiation of the program, presidential budgets have failed to include appropriations for the screening work. Each year, Congress has restored funding. In 1995, the Clinton Administration proposed transferring funding for the Mitchell Act program (which also funds hatcheries on the lower Columbia River) to Bonneville, where power sales revenues would pay for the work. However, no legislation has been sent to the Congress to accomplish this transfer.

Council members also have been concerned about the lack of enforcement by the states of screening requirements as a condition of water use permits.

Passage and temperature improvements at tributary dams

Long-term work to screen irrigation diversions in the Yakima River Basin will continue in 1995. These projects have been a focus of effort since the 1980s. Bonneville and the Bureau of Reclamation fund much of the work.

The Corps of Engineers completed an initial feasibility report on installing temperature control facilities at the Cougar and Blue River dams on Oregon's McKenzie River. The Corps found that constructing facilities to regulate the temperature of water released from the dams could substantially improve natural production of salmon in the McKenzie River. This population is one of the key resources for both natural and hatchery production of the Willamette River salmon fishery. The Council has continued to work to fund these projects, which are currently estimated to cost \$45 million. The Council has also asked Congress to clarify that this work will be repaid according to the original cost-sharing established for the dams and not be delayed by additional requirements.

Harvest

Escapement goals

Commercial and recreational fishing seasons in 1994 represented record closures and included a coastwide prohibition against coho harvest and closure of all (coho and chinook) non-Indian fisheries north of Cape Falcon, Oregon. The main drive for these restrictions was the protection of severely depressed coho populations.

The 1995 ocean fishing season in Washington and Oregon waters is still very restrictive due to protection of wild Snake River chinook listed under the Endangered Species Act. Timing, area closures and gear restrictions have been implemented to help reduce hook-and-release mortality on both coho and chinook. Chinook harvest is prohibited along the Oregon Coast north of Cape Falcon and along the Washington Coast. Recreational fishing is not allowed within three miles of shore to avoid contact with chinook.

Seasons on the Oregon Coast south of Cape Falcon, once again, prohibit sport or commercial coho fishing. However, a limited commercial chinook season will be allowed. The 1995 allowed-harvest quota was set at 75,000 coho (about three-quarters for the recreational fishery and one-quarter for the commercial fishery). Proposed treaty Indian regulations allow for landing up to 12,000 chinook (compared to 4,400 allowed in 1994) and 25,000 coho (compared to none in 1994). The popular Buoy 10 salmon season at the mouth of the Columbia will be reinstated in 1995 with some limited openings for coho and chinook. Chum and sockeye salmon cannot be retained in these fisheries.

Fishing rules adopted in 1995 by the Columbia River Compact for the lower Columbia River banned all sport and commercial spring chinook fishing for the first time in history. These drastic measures were implemented to protect the record low forecast run of 12,000 spring chinook bound for the upper Columbia. Treaty tribes have agreed to limit their commercial, ceremonial and subsistence fisheries above Bonneville Dam to minimize catch of spring chinook. Discussions on inriver fall chinook harvest are under way.

Negotiations with Canada under the Pacific Salmon Treaty are stalemated. This is due in part to the inability of the states to agree on a U.S. position in the negotiations. Canada insists that reductions in Canadian harvest will require reductions by Alaskan and Washington's fishers in their harvest of Canadian stocks. In August, a federal judge responding to a suit filed by Northwest Indian tribes issued a temporary ban on commercial chinook fishing in southeast Alaska.

Action on harvest alternatives

With the substantial closure of Columbia River commercial fisheries, the program seeks the development of alternative fisheries that may permit some harvest on stronger runs. One approach is to develop "terminal" fishing sites - where hatchery fish can be caught away from weak returning adults. Under this measure, Bonneville is funding a demonstration project in Youngs Bay near Astoria, Oregon. Local commercial fishers participate in funding this project, which raises hatchery salmon in net pens in the bay. The hope is that net-pen rearing will improve survival of the hatchery fish and allow them to imprint on the site so that they will return there as adults. The project has had initial success in allowing harvest of both coho and spring chinook and is currently expanding to other test sites in the lower river. The program seeks to test such fisheries elsewhere in the basin, particularly in the tribal fishing zone above Bonneville Dam.

Other harvest management

A critical technical shortcoming of current methods for reporting harvest data is the absence of a standard method for integrating stock-specific ocean and inriver harvest and escapement information. Preparation of a unified report is now being explored through the Pacific States Marine Fisheries Commission, depository and manager of the Coordinated Information System. Information contained in the Coordinated Information System database is expected to provide necessary elements for the completion of comprehensive estimates of harvest mortality.

Experiments begun in 1992 to determine the feasibility of marking migrating salmon using a laser have been unsuccessful. The marks were not permanent enough. Bonneville is now considering redirecting the research to use an automated marking system that would not require handling the fish or anesthetizing them.

Resident Fish

The Council's fish and wildlife program takes the same comprehensive watershed management approach for resident fish as it does for salmon and steelhead. Healthy habitat is an important component of that ecosystem approach. But habitat in some areas of the basin has been inundated or otherwise degraded by dam construction and reservoir fluctuations. In other areas, salmon and steelhead have been permanently blocked from their habitat by dams, and resident fish are being introduced and nurtured as substitutions for the lost salmon. The fish and wildlife program calls for habitat improvements, streambed protection, and small-scale production facilities to increase survival and expand populations of resident fish including: white sturgeon, kokanee, bull trout, westslope cutthroat trout, redband trout and burbot.

The program also includes measures to ensure adequate water retention times to keep food for resident fish in the Grand Coulee reservoir and integrated rule curves to guide the operation of Hungry Horse and Libby dams to protect resident fish. However, as noted earlier, because of the biological opinion issued by the National Marine Fisheries Service for endangered Snake River salmon, the integrated rule curves at Libby and Hungry Horse were not implemented, and protection for resident fish at those dams is lacking.

Progress on resident fish measures

Projects adopted into the program at the end of 1993 were prioritized by the Columbia Basin Fish and Wildlife Authority for implementation starting in Fiscal Year 1994. At this point, work on all the priorities has begun, although funding delays occurred for some because of negotiations and contracting processes at Bonneville.

A major project is the development of resident fish loss assessments for all hydropower facilities in the Columbia River Basin. The first step of this project has been the identification of a standard approach and methodology for assessments. This work is not progressing as quickly as anticipated, and it will probably not be completed by the end of this year.

Kootenai River sturgeon

In September 1994, Kootenai River sturgeon were listed as endangered under the federal Endangered Species Act. Prior to the listing the fish managers had been developing and implementing efforts directed at sturgeon recovery. Last spring, flows were provided below Libby Dam in the Kootenai River for spawning sturgeon. Monitoring of sturgeon activities indicated that increased spawning occurred, but it is not clear whether it was at desired levels or whether increased production will result. This spring, flows in the Kootenai River have been very high because of natural runoff and storage releases. It is anticipated that these flows will provide the conditions needed for spawning sturgeon. The integrated rule curves the Council adopted in 1994 for Libby Dam include flows for sturgeon. The recovery effort also includes taking eggs and sperm from several individuals in the population for enhanced production at the Kootenai tribal hatchery. These fish might be used to help recover the natural population. The U.S Fish and Wildlife Service expects to release a draft recovery plan for these sturgeon in early 1996. The Council's amendments to the program address recovery of this population of fish through a combination of detailed biological objectives, a recovery strategy and measures that carry out the strategy. The measures address increased flows, supplementation and other factors.

Wildlife

Status of short-term and long-term agreements

Bonneville has continued to fund previously approved wildlife projects. This includes funding for a number of National Environmental Policy Act assessments of wildlife mitigation projects in Idaho, Oregon and Washington. It is expected that these assessments will be completed for all projects by the end of this year. Bonneville has not established either short- or long-term trust agreements for wildlife mitigation with any agency or tribe as is called for under the fish and wildlife program. At this time, the only long-term agreements in place are for Montana and for Dworshak Dam in Idaho. Additionally, Bonneville is in the third year of a five-year, interim agreement for wildlife mitigation with the State of Washington.

Cost Summary

Additional flows, spill and other projects have increased the region's costs for fish and wildlife mitigation since the levels of the 1980s. With the addition of expanded measures from the Council's program and the National Marine Fisheries Service's biological opinions, Council staff analysis shows that longer-term costs to the region could average around \$500 million annually if the programs are fully implemented on current schedules. The nation as a whole will bear additional costs through federal appropriations. Canada also has added costs because of its lost hydropower production. The precise costs are uncertain until further decisions are made on power system modifications and implementation of fish and wildlife projects. The costs are based on the value of foregone hydropower production and replacement power purchases. Actual costs can vary widely from year to year due to variations in precipitation and snow pack. The Clinton Administration has pledged approximately \$60 million in Fiscal Years 1995 and 1996, under Section 4 (h)(10)(c) so that all of the cost of recovery efforts will not be borne by the Bonneville Power Administration.

Major Power Planning Activities of 1995

Development of the 1996 Northwest Power Plan

In Fiscal Year 1995, the Council's two principal areas of power planning activities were preliminary development of the 1996 Northwest Power Plan and overseeing implementation of the 1991 Northwest Power Plan. Both of these sets of activities were affected significantly by changes within the electric utility industry -- both national and regional. These changes include restructuring of the generating side of the industry to open it to competition from non-utility power producers, and new regulations on the transmission side, which broaden access to power lines for other utilities and, potentially, for retail customers.

The combination of regulatory changes, lower natural gas prices, smaller-scale, less costly gas-fired power generating technologies and abundant low-cost surplus power on the Western wholesale market has caused many utilities to shift their planning focus from longer-term resource portfolio analysis to a shorter-term emphasis on staying competitive. This could jeopardize accomplishment of some of the goals of the Northwest Power Act, especially the acquisition of efficiency improvements and renewable resources, which may have lower long-term costs and certain environmental advantages, but higher short-term rate impacts. The reliability of the electricity supply is also in question when utilities operate without any coordination.

In addition to changes occurring at the national level, the utility industry in the Northwest is undergoing a transition of its own. The Northwest power system, which is about two-thirds hydropower, is more constrained in an operational sense than in the past because of the need to provide additional flows for salmon. These constraints and the pressures of growth in the region mean that the Northwest must be concerned about the ability to meet sustained peak loads, the ability to overcome significant firm energy deficits in some months of the year and the increased availability of nonfirm hydropower for several spring and summer months. These hydrosystem constraints may have reduced the ability to meet sustained peak loads with indigenous hydropower. However, the evolution of a more open West Coast market for electricity and an abundance of surplus electricity in that market make it easier to meet sustained peak loads at a relatively low cost through power purchases. The Council is developing new computer models to address capacity issues and is incorporating expanded consideration of West Coast markets in its 1996 plan.

In preparation of the new plan, the Council and its staff have held nearly a hundred consultations, to date, and sponsored numerous panel discussions to help define how the plan should address the new industry. The Council met with industry executives, representatives from state, tribal and local governments, conservation and environmental advocates and others. While there was no clear consensus from these groups on the role the Council can play in this changing environment, there was general agreement that the Council's attention to the long-term and to the region as a whole, versus a short-term and single-utility perspective is still critical to the region's economy and its environment. The Council's analytical ability can help Northwest utilities choose among a broadened range of possible futures. There will be a new section in the 1996 plan, in which the Council explores some potential scenarios for how the industry could be structured, whether and how much regulation is appropriate and what the likely outcomes of such structures and regulatory schemes might be.

The New Utility Industry: Scenarios and Consequences

It is impossible to know specifically how the utility industry will evolve. However, the Council has identified a number of possible scenarios and is analyzing the consequences of those scenarios in terms of the goals of the Northwest Power Act. Some of the questions the Council is exploring in preparation of the power plan include:

Structure of the industry

In what alternative ways might the electricity industry in this region be structured? Is competition more effective if generation, transmission and distribution are managed and marketed independently? Will utilities need to divest themselves of portions of their systems -- generating plants, transmission systems, distribution lines -- to ensure fair and effective competition, or can these services be unbundled through regulatory or other processes, enabling utilities to retain ownership? What are the implications of maintaining or not maintaining distribution utilities' franchises? What are the implications of utilities pooling resources, versus continuing to negotiate two-party contracts? Are stranded investments (unpaid investments in power plants or other facilities made uncompetitive by changing technology or regulation) problematic under the various scenarios; and what are the implications of different ways of dealing with stranded investments? These issues are discussed in the staff issue paper, *Structure of the Northwest Electricity Industry: Alternatives and Implications*, publication 95-15.

Alternative regulatory models

Elements of the utility industry will probably continue to have monopoly characteristics and will continue to be regulated. What are the implications of performance-based rate regulation or other regulatory innovations relative to conventional, rate-of-return regulation?

Role of the Bonneville Power Administration

The combination of new technologies, low natural gas prices, abundant low-cost surplus electricity in the West and a largely deregulated wholesale electric energy industry has transformed the environment in which Bonneville operates. Bonneville's customers are now able to choose alternative energy suppliers unless Bonneville offers competitive rates. These developments, together with declines in populations of wild Columbia River salmon, raise fundamental issues about Bonneville's purposes, the allocation of hydropower benefits and the shared responsibility for past energy investments. These issues are discussed in the staff issue paper on the *Role of the Bonneville Power Administration in a Competitive Energy Market*, publication 95-14, which was released in July. The Council has heard comment on the paper at its regular meetings and is compiling the comments to identify issues and options that merit further exploration.

Reliance on the West Coast market

In the short term, to what degree can power from existing resources in the West Coast wholesale electricity market defer resource commitments in the Northwest? In the long run, is power system reliability an issue associated with a competitive market?

Conservation and renewable resources in a competitive industry

What market-driven level of conservation and renewable resource development can be expected under different competitive models? What levels are cost-effective from a regional perspective, and do these differ from market-driven levels? What is the appropriate role of utilities in acquiring

conservation and renewable resources and supporting research, development and demonstrations to promote these resources? What mechanisms could be effective in mitigating any differences between what is cost-effective for the region and what the market can be expected to deliver? Several issue papers were released in Fiscal Year 1995 to explore and promote debate on these concerns. They include: Acquiring Energy Efficiency More Efficiently, publication 94-52; Market Transformation: What Is It and How Do We Get There?, publication 94-54; and A Renewable Energy Resource Strategy for the 1996 Power Plan, publication 95-16.

Alternative Resource Strategies

The evaluation of alternative resource strategies was the primary analytical substance of past Council power plans. Some people now question the relevance of such analysis in a competitive market. It is true that there is unlikely to be a single entity -- Bonneville or a vertically integrated utility -- fulfilling the role of portfolio manager. Nonetheless, the collective actions of individual utilities, independent power producers, brokers and so on, will comprise a de-facto resource strategy. The Council can provide value in evaluating the consequences of alternative resource paths. The analysis will consider long-term expected present value cost to the region and measures of risk around that expected value. The analysis will also consider the nearer-term time pattern of costs, rates and other factors of relevance in a more competitive situation. Some of the questions that could be evaluated are:

- What costs, benefits and risks are associated with a strategy of reliance on the market and deferral of investments in conservation and renewables in the short term and heavy reliance on natural gas-fired resource additions in the long term ?
- What are the costs, benefits and risks of more diverse resource strategies?
- What are the costs, benefits and risks associated with "green" resource strategies?
- What are the costs, benefits and risks associated with strategies designed to provide a more natural hydrograph for salmon recovery?
- What are the effects of possible environmental costs on resource choices?

Development of New Power Planning Tools and Data

Tools to analyze capacity

Changes in the operation of the hydropower system to benefit salmon runs have decreased the flexibility of the system for meeting sustained peak energy demand. Other generating losses and continuing growth in the Northwest economy add to this problem. The Council has developed new models and data for analyzing changes in capacity needs. These will be used in conjunction with other models to evaluate the total system impacts of conservation programs and other resources.

Analysis of West Coast markets

The evolution of a more open West Coast market for electricity may mean the region can draw on a wider range of resources for a significant part of the year to meet its needs with acceptable reliability. The Council is working with Bonneville's Accelerated California Market Estimator Model (ACME) and the results of other analysis to develop supply and demand curves for electricity in the Southwest. Preliminary analysis shows a substantial surplus of power in the near term, at a price

between 2 cents and 3 cents per kilowatt-hour at the wholesale level. This analysis is discussed in the issue paper, *An Analysis of Western Electricity Markets*, publication 95-19.

Conservation evaluations in planning

The Council developed a data base that collects and documents 100 utility conservation program evaluations carried out in the region. A Council staff issue paper was produced and distributed that summarized the findings from these evaluations and discussed the role of evaluations in power planning.

Environmental externalities in power planning

The Council is reviewing methods for evaluating environmental externalities, such as air-quality impacts, from new resource development. In the 1991 Power Plan, the Council addressed the issue of environmental costs in several ways. First, it gathered information on environmental effects of resources under consideration, measured in physical terms. Second, conservation was given extra credit in economic comparisons with generating resources to reflect conservation's smaller environmental impact. Third, the plan called for activities to confirm the cost and performance of renewable generating resources, to make it possible to increase these resources' share of the regional mix in the future. Fourth, the plan expressed a preference for gasified coal technology rather than conventional coal power plants because of gasification's environmental advantage, and a preference for cogeneration. Both of those preferences were based partly on the Council's evaluation of environmental considerations. Additional considerations are under review for inclusion in the 1996 Power Plan. These include estimating the costs and benefits of reducing environmental impacts, and the risks of being wrong about externality values.

Advisory Committees and Consultation Groups

The Council is relying on a number of advisory committees to provide technical assistance in developing the 1996 Power Plan. These committees include:

- Conservation Acquisition Task Force

- Economic Forecasting Advisory Committee

- Demand Forecasting Advisory Committee

- Natural Gas Advisory Committee

- State Agency Advisory Committee

- System Analysis Advisory Committee

- Generating Resources Advisory Committee with subcommittees on:

 - Combined-cycle power plants

 - Biomass resources

 - Solar resources

 - Low-temperature hydrothermal resources

- Conservation Resources Advisory Committee with the following subcommittees:

 - Industrial

 - Residential Appliances

 - Commercial

 - Residential Space Heat

 - Irrigation

 - Basic Assumptions

 - Transmission & Distribution

In addition, Council members and their staffs consult on a regular basis with groups in each state, as well as across the region. The regionwide groups include:

- Regional public utility commissions in each of the four Northwest states.
- Load Shape and Peak Demand Modeling Review Group
- Compact Fluorescent Lighting Group
- Manufactured Housing Technical Advisory Group
- Conservation Tracking Workgroup
- Power Plan Industrial Consultation Group
- Power Plan Public Interest Consultation Group

Implementation of the 1991 Northwest Power Plan

Conservation Resources

Since the adoption of the 1991 Power Plan, the region's utilities have met and even surpassed the annual energy saving targets set forth in that plan. In 1994, 120 megawatts were saved, bringing the total for the region to nearly 900 megawatts since 1978. Continued acquisition at this level beyond fiscal year 1995 will be affected by changes in the utility industry, which make it difficult for utilities to recover their investments in energy efficiency. In addition, because the cost-effectiveness level for conservation investments is based on the price of alternative resource choices, the drop in power prices due to lower natural gas prices and newer technologies also means the amount of conservation considered cost-effective is reduced. The Council is working on a number of new approaches to enable the region to continue securing energy-efficiency improvements in homes and businesses.

Conservation reinvention

In response to a more competitive environment and budgetary restrictions brought on by poor water conditions, fish and wildlife costs and high debt levels from previous resource acquisitions, Bonneville has initiated efforts to "reinvent" the way conservation programs are delivered in the region. The Council has participated in the development of a plan in which Bonneville focuses on market transformation efforts, and Bonneville customer utilities develop their own conservation programs in accordance with individual utility conservation plans. To help the utilities with this planning effort, the Council is working with Bonneville in its efforts to develop a number of tools that would be of assistance to utilities in planning and implementing conservation programs at the local level. In addition, the Council, Bonneville and the Public Power Council cooperated on a survey of past, current and planned public utility conservation programs.

Building code activities

A new energy code for commercial buildings was approved in Oregon this year. The code includes a unique simplified prescriptive path for building envelope and mechanical systems, which should enhance compliance. The new code will take effect in 1996. Implementation efforts on both the Oregon code and the 1994 Washington commercial code have been proceeding. They include a novel training program sponsored jointly by gas and electric utilities. The Council also testified at hearings for the 1995 Edition of the National Model Energy Code for residential buildings. The changes adopted will primarily affect homes built in Idaho and Montana that are using some form of federally assisted or insured financing.

Market transformation activities

The term "market transformation" refers to a set of strategies designed to increase purchases and improve technologies of energy-efficient products and equipment. Market transformation efforts are different than traditional utility programs, which focus on site-by-site efficiency acquisitions instead of marketwide ones. In most cases, it is less costly to change market products and behavior than to acquire energy savings through traditional utility programs. Bonneville has included market transformation efforts in its reinvention of conservation. The Council called for a number of market transformation activities in the 1991 Power Plan and continues to pursue development of programs, evaluation methods and strategies at both the regional and national level. These programs address energy-efficiency improvements in residential and commercial buildings, compact fluorescent lighting programs and programs that encourage industries to switch to more efficient motors.

This year the Council was instrumental in helping the region launch a new cooperative market transformation venture covering the residential lighting market. Washington Water Power, Portland General Electric, PacifiCorp, Puget Power and Bonneville, with the help of its public utility customers, have joined together to influence the compact fluorescent lightbulb market. These utilities will be offering manufacturers of compact fluorescent bulbs rebates for up to 185,000 bulbs per year that are delivered to retail outlets in their Northwest service territories. A rebate paid to the manufacturer has more market power than rebates to the consumer, because consumers don't have to do anything extra, like mailing in a coupon and receipt, to secure the marked-down price. The manufacturer buy-down approach also encourages competition among manufacturers to bring the long-term costs of the products down. The partner utilities in this program intend to evaluate and document any changes in the market that might be results of the effort.

Another market transformation activity is what is known as "commissioning" -- ensuring that commercial buildings operate as they were intended, through coordinated testing and documentation of all the building components and equipment. Commissioning has been demonstrated to provide energy savings of 10 to 30 percent, plus many non-energy benefits, such as improved air quality, reduced litigation, fewer occupant complaints and increased productivity by occupants. To encourage building commissioning, the Council has contracted with Portland Energy Conservation, Inc., to conduct a regionwide commissioning conference. The conference will be held on November 14, 1995, at the Seattle Westin Hotel (which has been commissioned). Cosponsors of the conference include the Bonneville Power Administration, the U.S. Department of Energy, PacifiCorp, Puget Sound Power and Light, Seattle City Light, Portland General Electric, the Oregon and Washington State Energy Offices, Tacoma City Light, Washington Water Power and others.

Manufactured Housing Acquisition Program

The Manufactured Housing Acquisition Program has been a very successful example of market transformation efforts. Virtually all of the manufactured homes built in the Northwest between April 1992, when the program began, and July 1995, when it was terminated, will meet "Super Good Cents" efficiency standards. Over 50,000 homes were built to the standards, with a projected savings of approximately 25 megawatts. In partial replacement for the program, PacifiCorp and Portland General Electric are working with manufacturers and two major lenders to provide the Energy Efficient Mortgage program, which will offer favorable mortgage terms for Super Good Cents-level manufactured homes. The Council also participated in the development of national standards for manufactured homes, which took effect October 25, 1994. These standards will achieve approximately half the savings achieved by the Manufactured Housing Program.

Conservation tracking system

The region's conservation tracking system, Nutrak, is used to record utility energy savings for the region. It is in its third year of data collection. The system provides a streamlined process for investor-owned utilities to submit data to the tracking system while simultaneously reporting the same data to public utility commissions in each state. The system is also used to track energy programs for Bonneville and its largest customer utilities. It also includes data from more than 100 utility energy conservation program evaluations in the Northwest.

Generating Resource Development

Activity and trends

Beginning in the late 1980s, increased economic activity and accompanying electrical load growth initiated a period of active generating project development in the Northwest. (Figure 1)

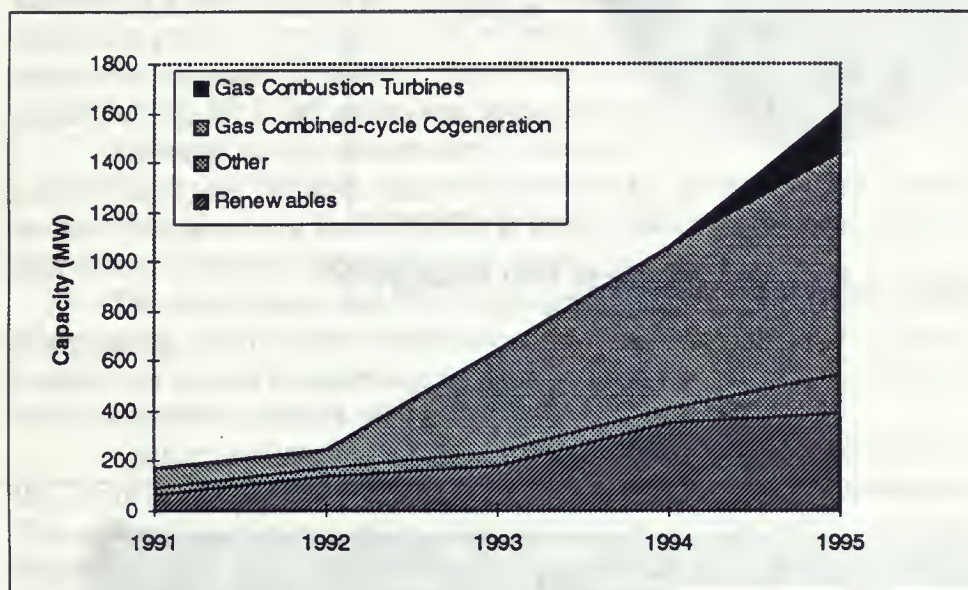


Figure 1: Cumulative Generating Resource Capacity Completed: 1991 through 1995

During this period Bonneville and other Northwest utilities relied to a great extent on competitive bidding in securing new resources. This approach, which involves the solicitation and evaluation of bids from utilities, power brokers and independent power plant developers, was advocated in the 1991 Power Plan. Competitive bidding is well-suited for securing least-cost resources and accounting for environmental externalities, resource diversity objectives and other non-market societal objectives. However, some new resources were acquired through unsolicited proposals, and other projects were financed and constructed through traditional utility processes.

Competitive bidding resulted in a wide range of resources, including natural gas-fired combustion turbines, renewables and system sales (and for all-source bids, conservation) being proposed to utilities seeking new resources. Initially, renewables (hydropower and biomass residue fuels) and industrial cogeneration comprised a substantial portion of the resources acquired. However, because of declining natural gas prices and improvements in efficient, reliable and low-cost combustion turbine technology, generating resource acquisitions have been increasingly dominated by natural gas-fueled combined-cycle combustion turbine power plants. Of the 1,620 megawatts of new generating capacity completed from 1991 through 1995, 66 percent are gas-fired (Figure 2). Most of

the new gas-fired capacity consists of combined-cycle combustion turbine power plants serving some cogeneration load.

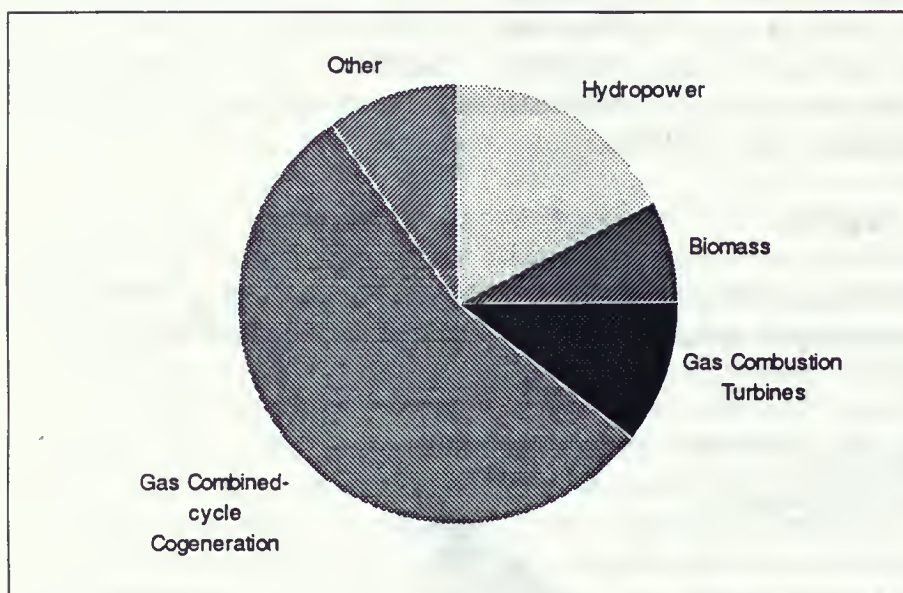


Figure 2: Types of Generating Resources Completed 1991 through 1995

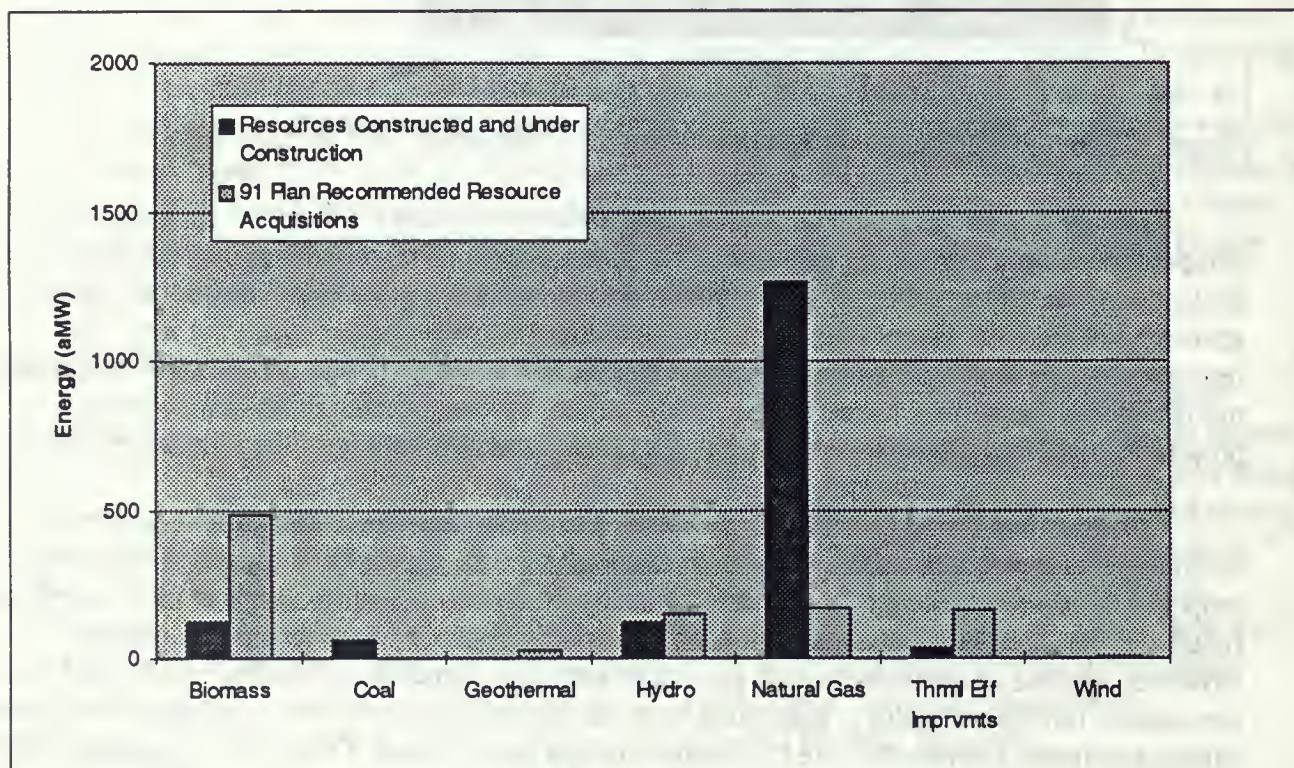


Figure 3: Recent Generating Resource Development Activity in the Pacific Northwest

At the present time, there are 590 megawatts of gas-fired combined-cycle combustion power plants under construction, with completion planned for 1996 or later. An additional 4,200 megawatts are licensed for construction or have applied for permits. It is unclear, however, how many of the latter projects actually will be constructed. Although regional electrical loads continue to grow, there have been no major resource solicitations within the past year.

To reduce costs and maintain flexibility during the period of industry transition, Bonneville and several of the region's utilities have stated that they intend to rely on purchases from the Western wholesale market for meeting loads during the next several years. In implementing this policy, Bonneville is seeking to terminate its acquisition of the 248-megawatt Tenaska Washington II generating project and the 55-megawatt Klickitat Cogeneration Project. Bonneville has also terminated its acquisition of the 12-megawatt McNary Fishway hydroelectric project. In addition, Bonneville is reviewing its acquisition of other small generating projects, including geothermal and wind pilot projects (see below). To protect against unexpected tightening of the wholesale market and unexpected increases in demand, Bonneville is continuing its option development agreements to secure permits for 1,146 megawatts of gas-fired combined-cycle combustion turbines.

Recent efforts by independent developers to secure licenses for "merchant" power plants (plants constructed without long-term power sales agreements and intended to sell into a wholesale market) may portend a new direction in power plant development, where plants are constructed as speculative ventures in anticipation of market demand.

The chief factors that have converged to dampen new project development efforts are industry restructuring and the recent availability of low-cost power on the wholesale market. New power from a wholesale market is apparently supplied by older, largely amortized fossil-fuel power plants, made more competitive because of declining natural gas prices.

Utilities understandably want to remain flexible during the period of industry transition -- thus the desire to avoid long-term contractual commitments associated with new resource development. The availability of power on the wholesale market at competitive prices allows this tactic. Also contributing to a slowdown in new resource acquisition is the desire among utilities to avoid rate increases. Again, the low-cost wholesale power from existing resources is assisting utilities to achieve this objective. By deferring acquisition of new resources, utilities are able to avoid near-term rate increases that could drive customers to seek lower-cost power from other utilities, the wholesale market, or by installing their own generation.

The current resource acquisition environment has increased the difficulty of meeting the objectives of the Northwest Power Act through the means envisioned in earlier power plans. A competitive wholesale market could lead to more cost-effective resource acquisitions and lower cost power. However, a competitive market may not adequately account for environmental costs and externalities. Thus a competitive market makes it more difficult to achieve the environmental and long-term objectives more explicitly addressed in an integrated resource plan.

Additionally, restructuring reduces the effectiveness of integrated resource planning, resource acquisition processes and other conventional approaches in achieving environmental, resource diversity and other societal objectives. Restructuring uncertainty and the focus on near-term rate impacts increases the difficulty of acquiring capital-intensive renewable resources or conservation and securing utility participation in research and development activities. Yet public opinion appears to show continuing support for conservation, renewable resources and the environmental quality objectives of the Power Act. Because many of the changes under way in the electric power industry are likely to be long-term, the Council, in the development of its next power plan, is identifying

objectives of the Power Act that could be at risk in the emerging industry structure, and will be seeking alternative ways of achieving these objectives.

Forum to discuss renewable resources

The 1991 Power Plan called for a forum to discuss and promote renewable resources in the region. The Northwest Renewables Forum was held in Portland, Oregon, on February 14, 1995. Sponsors included the Council, the Renewable Northwest Project, the Bonneville Power Administration, PacifiCorp and Portland General Electric. The purpose of the forum was to explore possible goals for renewable energy development in the Northwest and strategies for achieving those goals in view of the changing industry structure. More than 200 people attended the forum. Speakers addressed the challenges faced by renewables in competitive markets and discussed goals and objectives for renewable development. Proceedings from the forum were published by the Council. Information from the forum will be incorporated into development of the 1996 Power Plan.

Bonneville wind and geothermal projects

The 1991 Power Plan called for the development of pilot projects to confirm the feasibility and cost-effectiveness of Northwest renewable resources for power generation. In Fiscal Year 1994, Bonneville had four projects in various stages of development. However, in February 1995, Bonneville announced that the projects were being reviewed and could be eliminated as part of cost-cutting measures. Bonneville has developed a set of "green power" packages that incorporate various combinations of the Columbia Windfarm and Foote Creek Ridge wind demonstration projects, and the Glass Mountain and Newberry geothermal pilot projects. Two of the four green power packages include an enlarged version of the Glass Mountain geothermal project as a way of reducing its per-kilowatt costs. The packages are being marketed to Bonneville's public utility customers and investor-owned utilities.

Other regional renewable resource highlights

Other renewable resource activities are contributing to the implementation of the Renewable Resource Confirmation agenda of the 1991 Power Plan. These include the Columbia Hills Windfarm, being developed for PacifiCorp and Portland General Electric, and the Pueblo Valley geothermal project being developed for Portland General Electric. Additional increments of the Foote Creek Ridge wind plant are being purchased by PacifiCorp, the Eugene Water and Electric Board and several out-of-region utilities. The Idaho Power Company is continuing its solar photovoltaic tariff and this past year installed a 77-kilowatt solar photovoltaic plant -- the largest in the Northwest -- at a remote Mountain Home Air Force Base, facility. PacifiCorp has installed a 5-kilowatt photovoltaic array at the High Desert Museum in Bend. In the past year, Bonneville and other regional utilities have initiated the Regional Solar Radiation Monitoring Project and continue to sponsor the Wind Research Cooperative.

Institutional and Regulatory Issues

Increasing competition in the electric utility industry has led to a proliferation of proceedings and processes to address institutional and regulatory issues. The Council has participated in a number of these proceedings to ensure that the goals of the Northwest Power Act can be met in this changing utility environment. Of primary importance to attaining the goals of the Act are changes under way at Bonneville. When the Northwest Power Act was passed in 1980, it was anticipated that Bonneville would be the primary acquirer of resources for meeting the energy needs of the region. That condition

did not hold true for the region's investor-owned utilities and is beginning to change for the region's public utilities as well.

Power sales contracts

Bonneville has been renegotiating power sales contracts throughout the year. The Council has participated in many of these discussions. Of particular importance to meeting the goals of the Northwest Power Act under conservation reinvention is the stipulation that individual public utilities would each develop a conservation plan. Some utilities will be doing a least-cost plan of which a conservation plan will be a part. Not all contract issues could be resolved according to the original schedule. During Fiscal Year 1996, Bonneville and its customers will try to negotiate more individually tailored contracts with each customer, rather than "one-size-fits-all" contracts for each customer class.

Bonneville corporation legislation

In an effort to better control costs and streamline procedures, Bonneville is proposing legislation to become a government corporation. The Council held hearings on draft legislation and learned that a number of parties across the region were concerned about the legislation as drafted. Many expressed the view that the legislation was overly broad and might have resulted in freeing Bonneville from the current level of regional and Congressional oversight. The four Northwest states, their Governors and their citizens want to continue to have a strong role in policy development and implementation at Bonneville. Virtually all parties also agreed it is imperative for Bonneville to become more economically efficient if it is to maintain the important regional role it has played in the past. A revised draft bill was developed. Currently, the administration's draft bill is under review by the Office of Management and Budget and other federal agencies.

Fiscal Years 1995, 1996 and 1997 Budgets

The Council is funded out of electricity revenues collected by the Bonneville Power Administration, a federal agency that markets power produced in the Pacific Northwest.

The Council's budget has remained relatively stable over the past eight years. In developing the Fiscal Year 1996 revised and Fiscal Year 1997 budgets, the Council attempted to respond to financial difficulties Bonneville is facing. The 1995 budget totaled \$8,460,000. This is lower than the Council's budget for 1992. In fact, since 1992, the Council has returned to Bonneville nearly \$1.6 million in savings. Budget reductions were achieved by deferring contracts, restricting travel, abolishing or freezing vacant positions, freezing salaries and by holding total staff compensation at or near Fiscal Year 1993 levels. In addition, the number of Council employees, which reached a high of 47 in Fiscal Year 1992, is projected to be 41 in the Fiscal Year 1996 budget -- a reduction of approximately 13 percent. Administrative expenses have been reduced to help absorb projected annual inflation.

The revised Fiscal Year 1996 budget of \$8,033,000 represents a reduction of \$773,000 from the Fiscal Year 1996 budget adopted the previous year. The draft 1996 revised budget reflects absorption of 12 percent inflation since Fiscal Year 1992. The Fiscal Year 1997 budget was increased by \$272,000 (4 percent) to \$8,305,000.

Council Meetings in Fiscal Year 1995

Date	Purpose and Location
October 11-13, 1994	Council Meeting * (1) Olympia, Washington
October 25-27, 1994	Work Session Portland, Oregon
November 8-10, 1994	Council Meeting Missoula, Montana
November 15-17, 1994	Council Meeting Portland, Oregon
December 6-8, 1994	Council Meeting Portland, Oregon
December 13-15, 1994	Council Meeting Portland, Oregon
January 10-12, 1995	Council Meeting Boise, Idaho
January 24-26, 1995	Work Session Portland, Oregon
February 8-10, 1995	Council Meeting * (1)(4) Pullman, Washington
February 21-23, 1995	Work Session Portland, Oregon
March 14-16, 1995	Council Meeting * (1)(3)(4) Polson, Montana
March 28-30, 1995	Work Session & committee meeting Portland, Oregon
April 11-13, 1995	Council Meeting Welches, Oregon
May 9-11, 1995	Council Meeting * (3) Post Falls, Idaho

May 23-25, 1995	Work Session & committee meetings Missoula, Montana
June 13, 1995	Council Meeting Portland, Oregon
June 14-15, 1995	Council Meeting Seattle, Washington
July 10-12, 1995	Council Meeting Butte, Montana
July 25-27, 1995	Work Session & committee meetings Spokane, Washington
August 15-17, 1995	Council Meeting * (1) Ashland, Oregon
September 12-14, 1995	Council Meeting * (1) (4) Twin Falls, Idaho
September 26-28, 1995	Work Session & committee meetings * (1) Portland, Oregon

* Portions of the above meetings were closed to the public for the following reasons as allowed under the Government in the Sunshine Act.

- (1) internal personnel
- (2) premature disclosure
- (3) civil litigation
- (4) retreat

Rulemakings in Fiscal Year 1995

December 14, 1994 Adopted anadromous fish changes to Columbia River Basin Fish and Wildlife Program (rulemaking begun in May 1994)

January 1995 Opened rulemaking on resident fish and wildlife sections of Columbia River Basin Fish and Wildlife Program

September 13, 1995 Adopted amendments to the resident fish and wildlife portions of the Columbia River Basin fish and Wildlife Program

The Council Offices

IDAHO

Northwest Power Planning Council
450 W. State (UPS and DHL only)
P.O. Box 83720
Boise, Idaho 83720-0062
Telephone: 208-334-2956
Fax: 208-334-2112
Todd Maddock in Lewiston: 208-798-8956

MONTANA

Northwest Power Planning Council
Capitol Station
Helena, Montana 59620-0805
Telephone: 406-444-3952
Fax: 406-444-4339

OREGON

Joyce Cohen
Northwest Power Planning Council
620 S.W. Fifth Avenue
Suite 1025
Portland, Oregon 97204-1424
Telephone: 503-229-5171
Fax: 503-229-5173

John Brogoitti
Northwest Power Planning Council
11 S.W. Byers Avenue
P.O. Box 1492
Pendleton, Oregon 97801

WASHINGTON

Mike Kreidler
Northwest Power Planning Council
1110 Capitol Way South
Suite 404
Olympia, Washington 98501
Telephone: 360-664-4030
Fax: 360-664-4032

Ken Casavant
Northwest Power Planning Council
Hulbert Hall - Room 211
Washington State University
Pullman, Washington 99164-6213
Telephone: 509-335-2816
Fax: 509-335-7226

CENTRAL

Northwest Power Planning Council
851 S.W. Sixth Avenue
Suite 1100
Portland, Oregon 97204
Telephone: 503-222-5161
Fax: 503-795-3370
Toll Free: 1-800-222-3355



Comments on the Draft Annual Report

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Department of the Interior
Washington, D.C.

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Department of Energy
Bonneville Power Administration
P.O. Box 3621
Portland, Oregon 97208-3621

August 9, 1995

EXECUTIVE OFFICE

Mr. Angus Duncan, Chairman
Northwest Power Planning Council
851 SW Sixth Avenue, Suite 1100
Portland, OR 97204

Dear Mr. Duncan:

Thank you for the opportunity to review and comment on the Northwest Power Planning Council's (Council's) 15th draft Annual Report. Our technical and editorial comments were provided under separate cover.

Many circumstances have changed since enactment of the Northwest Power Act. Regulatory changes such as National Energy Policy Act of 1992 and the Federal Energy Regulatory Commission's draft Notice of Proposed Rulemaking as well as technological advances and low gas prices have profoundly affected the market and its players. The Council's report accurately reflects these uncertainties and the challenges that face our industry today. And while the goals of the Act remain, the means to achieve these goals have and will continue to change.

The Council's report, in addition to summarizing the past year's activities, proposes to explore, through public forums and the development of the 1996 Power Plan the transition to more competitive markets and to examine alternative industry structures. This examination includes a review of Bonneville's (BPA's) role in the region and our mission to serve our various public purposes. As noted in your most recent Issue Paper on the Role of BPA in a Competitive Energy Market (doc. 95-14), these changes also imply changes in the role of the Council. I trust that the Council will also examine its role and the role of the States in accomplishing the goals of the Act in the Power Plan.

We support your efforts to foster discussion in the region to address these critical issues, and we remain committed to working with you in these endeavors.

Sincerely,

A handwritten signature in dark ink, appearing to read "Randall W. Hardy", is written over a horizontal line.

Randall W. Hardy
Administrator and Chief Executive Officer

cc:
Northwest Power Planning Council Members
Mr. Ed Sheets, Executive Director, NPPC



Department of Energy
Bonneville Power Administration
P.O. Box 3621
Portland, Oregon 97208-3621

July 31, 1995

Ed Sheets, Executive Director
Northwest Power Planning Council
851 S.W. Sixth Avenue, Suite 1100
Portland, OR 97204

Dear Ed:

Thank you for the opportunity to review the Council's Draft 15th Annual Report (publication number 95-11). Our review found the report to be a comprehensive summary of a lot of productive work.

Enclosed are technical and editorial changes that should be useful.

A letter from the Administrator for inclusion in the final Annual Report will be separately provided.

Sincerely,

A handwritten signature in cursive script, appearing to read "Karen", is written above the typed name.

Karen A. Hunt
Manager for Council Liaison

Enclosure

**BPA STAFF
COMMENTS ON**

**THE NORTHWEST POWER PLANNING COUNCIL'S
ANNUAL REPORT TO CONGRESS (Doc. 95-11)**

GENERAL COMMENTS:

- The Annual Report is somewhat peculiar in that it gives a heavy focus to power issues that will be addressed in the next Plan rather than focusing on the Council's activities and accomplishments in 1995. We suggest the Council reduce the amount of discussion concerning these unresolved issues and focus instead the Council's true accomplishments.
- It seems appropriate for the Council to include a discussion of its changing role, and including a short discussion on what the Council sees as its changing role within the changing electric power system would be helpful.
- It would be appropriate in these changing times for the Council to discuss briefly its role vis-a-vis state governments. For example, it would be appropriate, practical and effective for the Council to use its base as a creature of state government to influence states to act on the social aspects of its energy planning.
- Consideration should be given to whether the planning process as currently conceived is able to respond to the dynamics in the electric power industry in the Northwest and across the U.S. The current process for updating plans appears to lag very significantly behind the pace of change in the industry. Either a more rapid or perhaps continuous process of updating the plan would be appropriate.

GENERAL COMMENTS ON ISSUES INCLUDED IN DRAFT ANNUAL REPORT:

- The Council needs to focus more on who will pay for each of its policies and programs in realistic terms. It will be meaningless to develop estimates of social costs and benefits streams if they cannot also address the issue of specifically who will pay the bills. In the new competitive market these costs cannot automatically be forced on utilities, including BPA, in a way that places some at a competitive disadvantage. Silence on this subject might be interpreted to mean that the Council wants these costs to revert to BPA.
- The Council acknowledges that markets will determine what future resource development, and market mechanisms should get primary consideration in determining

which resources are cost-effective in the Council Plan. Much additional effort is needed to determine and justify when market interventions are needed to achieve environmental or other social goals and to overcome demonstrated market failure, including appropriate implementation (regulation, taxes, trading of environmental permits, building codes and standards, etc.). When interventions are justified, they must also help to create a level playing field for all parties in the competitive markets.

COMMENTS ON POWER PLAN ACTIVITIES:

Page 4, paragraph 2, last sentence: The fact remains that BPA carries unlimited environmental cost liability for customers into the future; business dealings with BPA tend to be ponderous, complicated and fraught with political challenges not experienced by utilities negotiating with IPPs or power marketers.

Page 4, paragraph 3, third sentence: The Council should also be considering whether changes in the mandates are in order given the evolution of the U.S. and global energy economies and whether a new vision for the Northwest energy is needed for the future.

Page 4, paragraph 2, last sentence: "... from new gas-fired power plants *and brokers dealing in surplus generation at variable costs.*"

Page 5, paragraph 1, second sentence: Reconcile the 1,600 MW of new generating resources cited with the 1,700 MW figure cited on page 40, paragraph 3, 3rd sentence. It would be helpful to identify who has made the acquisitions (i.e., BPA, IOU's, Publics, IPP's).

Page 5, paragraph 2, typos in first and fourth sentences: "... renewable resources..." "... have ..."

Page 5, paragraph, fourth sentence: "Bonneville's financial difficulties, coupled with customers' removing load from the agency, have, however, caused the agency to reassess ..."

Page 5, paragraph 4: Neither Jay Webb's membership nor Andy Brunelle's participation were not referenced.

Page 11, Juvenile Salmon Mitigation, last sentence: "The biological opinion, in general, devotes more water from the upper Columbia to salmon flows and less from the Snake River, as well as more water overall than the council's [sic] program." Question: As a comparison to 1994's 8.25 maf from the Columbia and 3.62 maf from the Snake for water storage to increase flows for spring and summer salmon migrants, how much water does the biological opinion devote from the Columbia? from the Snake?

Page 28, Resident Fish: - Resident Fish Substitution, for in lieu mitigation of anadromous fish losses, is now a major part of the Program. - Habitat is not the major emphasis of the resident fish program nor is watershed management.

Page 31, paragraph 2, second sentence: "This could *change the role of the Council* and jeopardize accomplishment of some of the goals of the Northwest Power Act, especially the acquisition of efficiency improvements and renewable resources, *which from a utility perspective have become less cost-effective in this competitive environment.*"

Page 31, paragraph 3, last sentence: "These constraints and the pressures of growth in the region mean that the Northwest must be concerned about the ability to overcome significant firm energy deficits in some months of the year and the increased viability of nonfirm hydropower for several spring and summer months. *Although these hydrosystem constraints may have reduced the ability to meet sustained peak loads, the evolution of a more open West Coast market for electricity may also mean that it might be easier to meet sustained peak loads at a relative low cost now that purchase power costs are down and we have a substantial surplus of power on the West Coast.*"

Page 31, paragraph 4: Delete first sentence. Move , "The Council is developing new computer models ..." to the end of paragraph 3.

Page 32, paragraph 2, last sentence: "... and regulatory schemes might be, *especially in relation to resource development and implementing the Power Plan.*"

Page 32, "The New Utility Industry: Scenarios and Consequences:" The discussion looks like an academic discussion of hypothetical industry structures and related issues which may ultimately be subject to limited Council influence. For example, IPPs are not subject to the same regulatory review as utilities and may not be influenced by the Power Plan. It is also more likely that the industry structure will arise from external forces outside the region such as FERC direction, California precedent and market evolution. The Plan, however, should identify likely structures and then show how the Council can be effective within those structures.

Page 34, bullets under heading "Alternative Resource Strategies": The second bullet item needs more detail to be meaningful (i.e., which "more diverse" strategies). The Fourth bullet item is largely a moot issue because it is settled by the ESA process. Add bullet item "*Assess a long term strategy of relying only on the market through purchase power versus long-term investments.*"

Page 37: After the list of technical advisory groups, add the sentence "*During FY 95 the Council has focused its consultations on defining the issues to be addressed in the Plan. We expect the technical advisory groups will become more involved as the Draft and Final Plan are developed.*" "In addition, Council members and their staffs consult..."

Page 37, paragraph 1 under "Conservation Resources," third sentence: Stating that the level of success is "threatened" implies that this is a bad change; and that is not necessarily the case. This sentence appears to make value judgments about conservation and should be rewritten, "Continued acquisition at this level beyond FY 95 is impacted by the changes ..."

Page 37, paragraph 1, last sentence: "The Council is working on a number of approaches to ensure that cost-effective conservation is still being acquired while also ensuring that existing efforts and targets that are no longer cost-effective are no longer acquired

Page 37, paragraph 1 under "Conservation Reinvention": "In response to a more competitive environment and budgetary restrictions brought on by a number of factors including poor water conditions, escalating fish and wildlife costs, and high debt levels from previous resource acquisitions and conservation ..."

Page 38, paragraph 1, first full sentence: "To help the utilities with this planning effort, the Council is working with BPA in its efforts to develop a number of tools that would be of assistance to utilities in planning and implementing conservation programs at the local level."

Page 39, paragraph 1, first sentence: "The Manufactured Housing Acquisition Program has been a very successful example of a program that worked directly with manufacturers." Delete the reference to this as a market transformation program as BPA does not believe that this fits the definition of market transformation.

Page 39, paragraph 1, third sentence: "Over 50,000 homes were built to the standards, with a projected savings of approximately 25 megawatts. This savings estimate does not make adjustments for fuel choice, which the program appeared to influence. ..."

Page 39, paragraph 1, last sentence: The statement does not indicate whether these standards have been adjusted for the new avoided cost.

Page 39, paragraph 2, third sentence: It does not appear that NuTrack will be the tracking system for Customer utilities. Thus, this sentence should read "The system may provide one alternative to track certain energy programs for BPA customers."

Page 40, paragraph 2, second sentence: Delete "However". The use of "However," seems to imply that the Council doesn't want the market to choose based on cost.

Page 41, paragraph 1, second sentence: Figure 2 begs the questions of how the planned resources will hold up with the competitive market, and what are the chances these plans will be carried out? Figure 2 attempts to rationalize that the 1991 Plan was on track, but only by assuming plans don't change.

Page 43, paragraph 1, second sentence: "The availability of power on the wholesale market at competitive prices allows this tactic."

Page 43, paragraph 2, second sentence: Delete the second sentence. Substitute "A competitive wholesale market could lead to more cost effective resource acquisitions and lower cost power than the more centralized planning envisioned in the Act. However, a competitive market may not adequately account for environmental costs and externalities. Thus a competitive market makes it more difficult to achieve the environmental and social objectives more explicitly addressed in an integrated resource plan. Additionally, restructuring reduces the effectiveness of integrated resource planning, ..."

Page 43, paragraph 2, fourth sentence: "... acquiring capital-intensive renewable resources or conservation and securing utility participation..."



851 S.W. Sixth Avenue, Suite 1100
Portland, Oregon 97204-1348

Telephone: 1-503-222-5161
Toll Free: 1-800-222-3355
FAX: 1-503-795-3370